

FIGURE 1

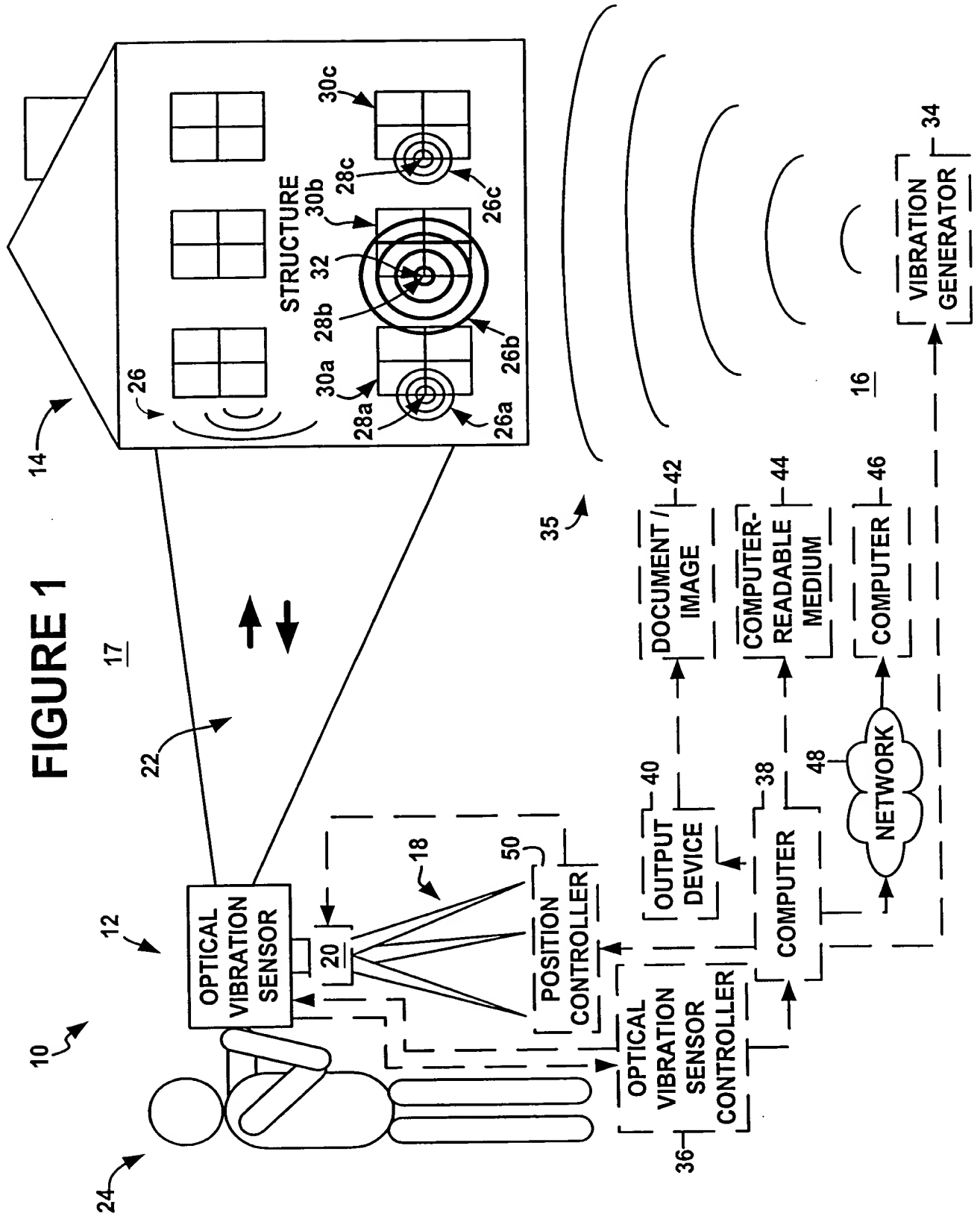


FIGURE 2A FREQUENCY OF LASER BEAM TRANSMITTED TO STRUCTURE

ELECTRIC FIELD

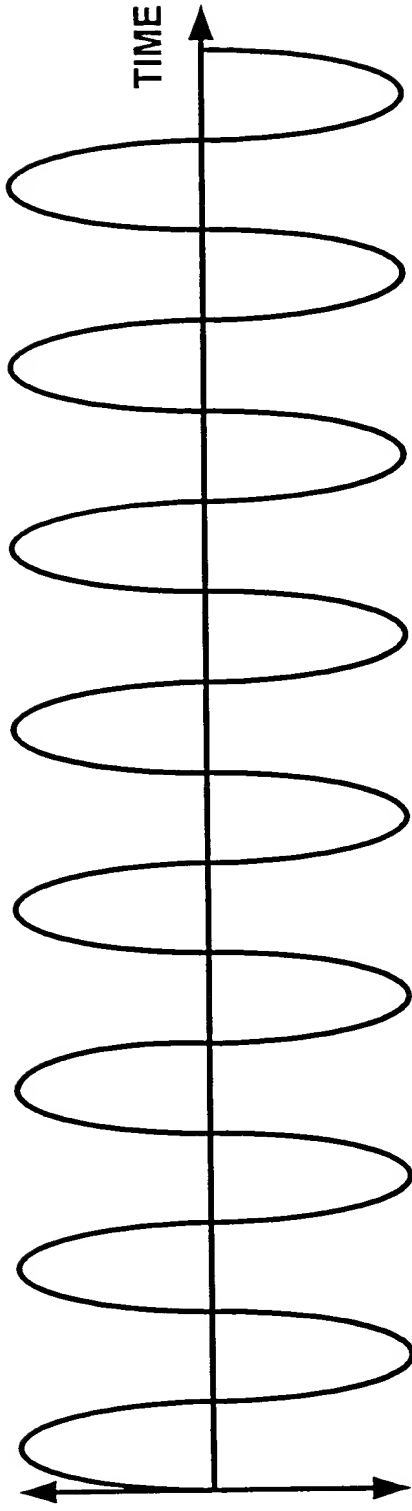


FIGURE 2B FREQUENCY OF LASER BEAM RECEIVED FROM STRUCTURE

PERIOD T OF VIBRATION

ELECTRIC FIELD

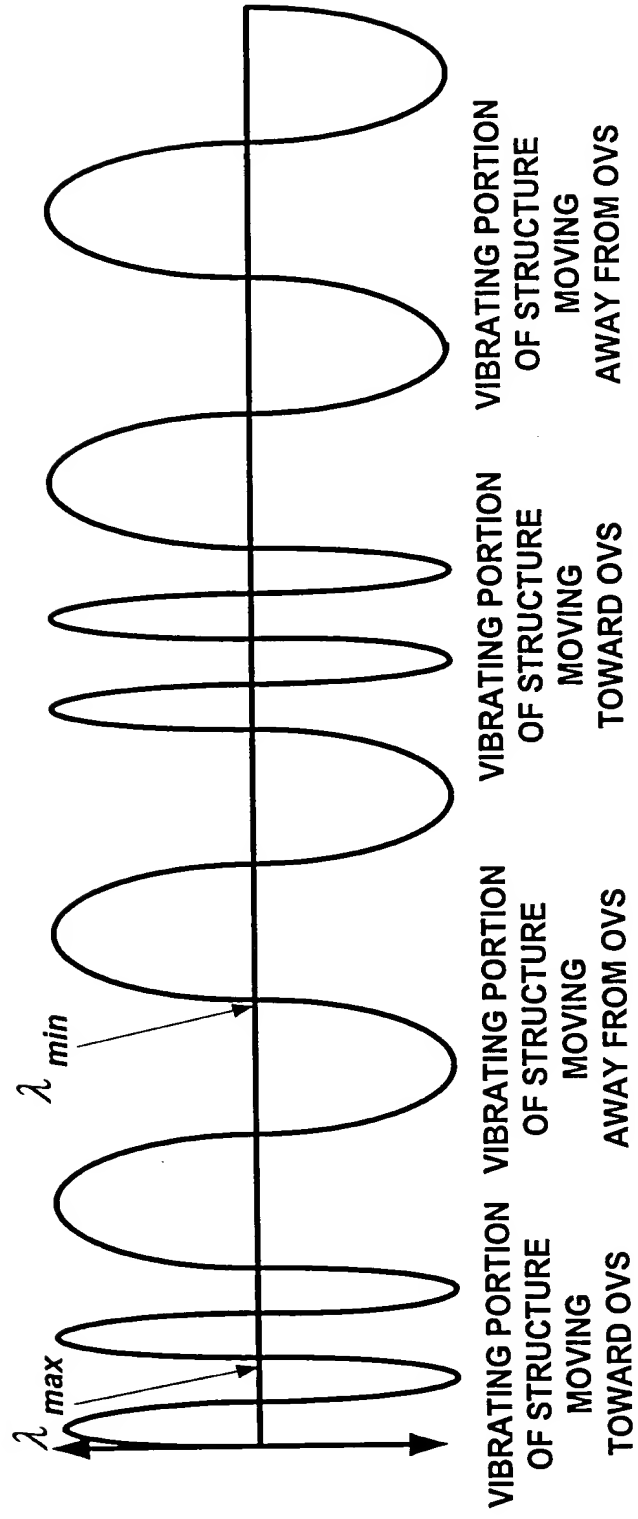


FIGURE 3

OPTICAL VIBRATION SENSOR

12

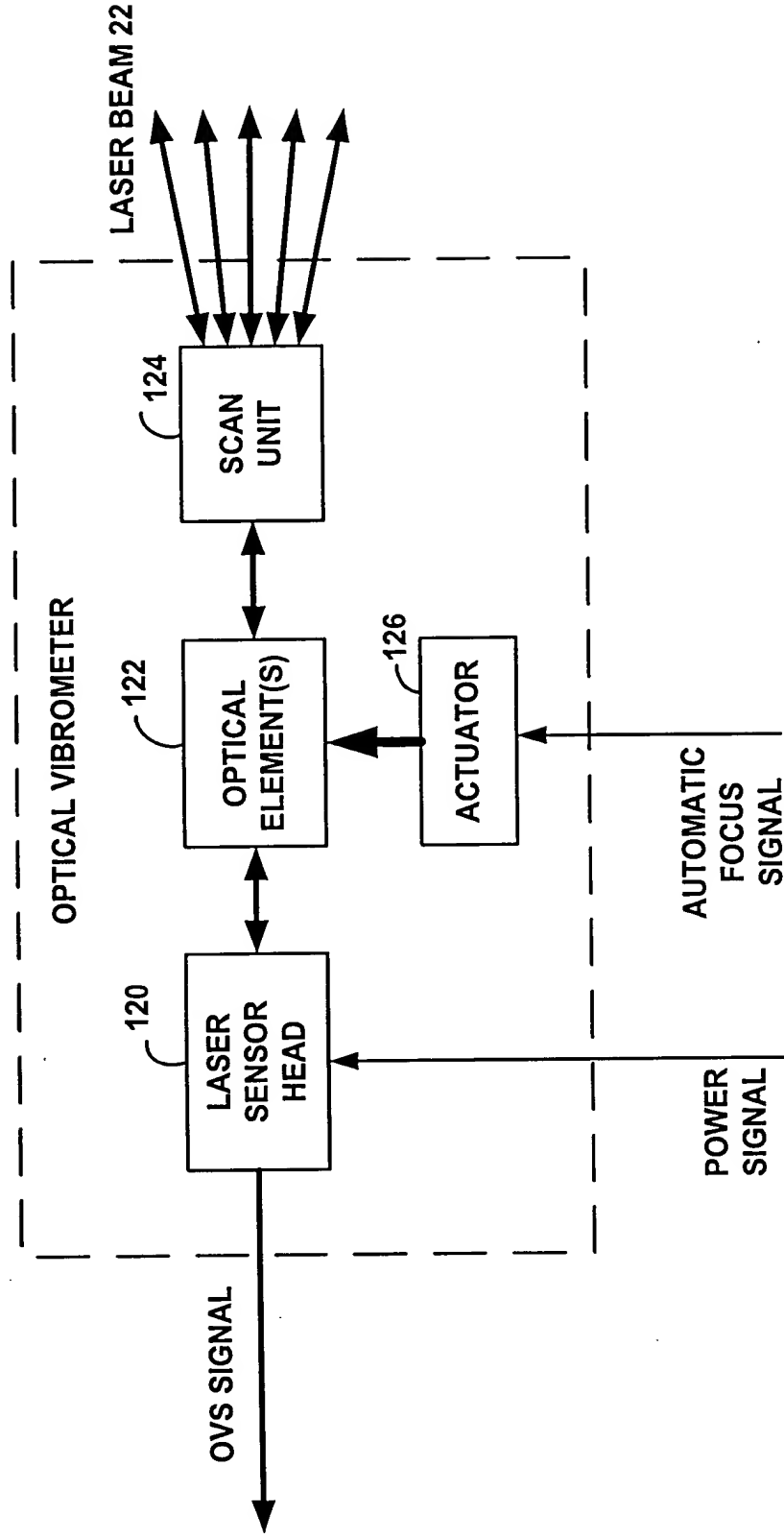


FIGURE 4

OPTICAL VIBRATION SENSOR CONTROLLER 36

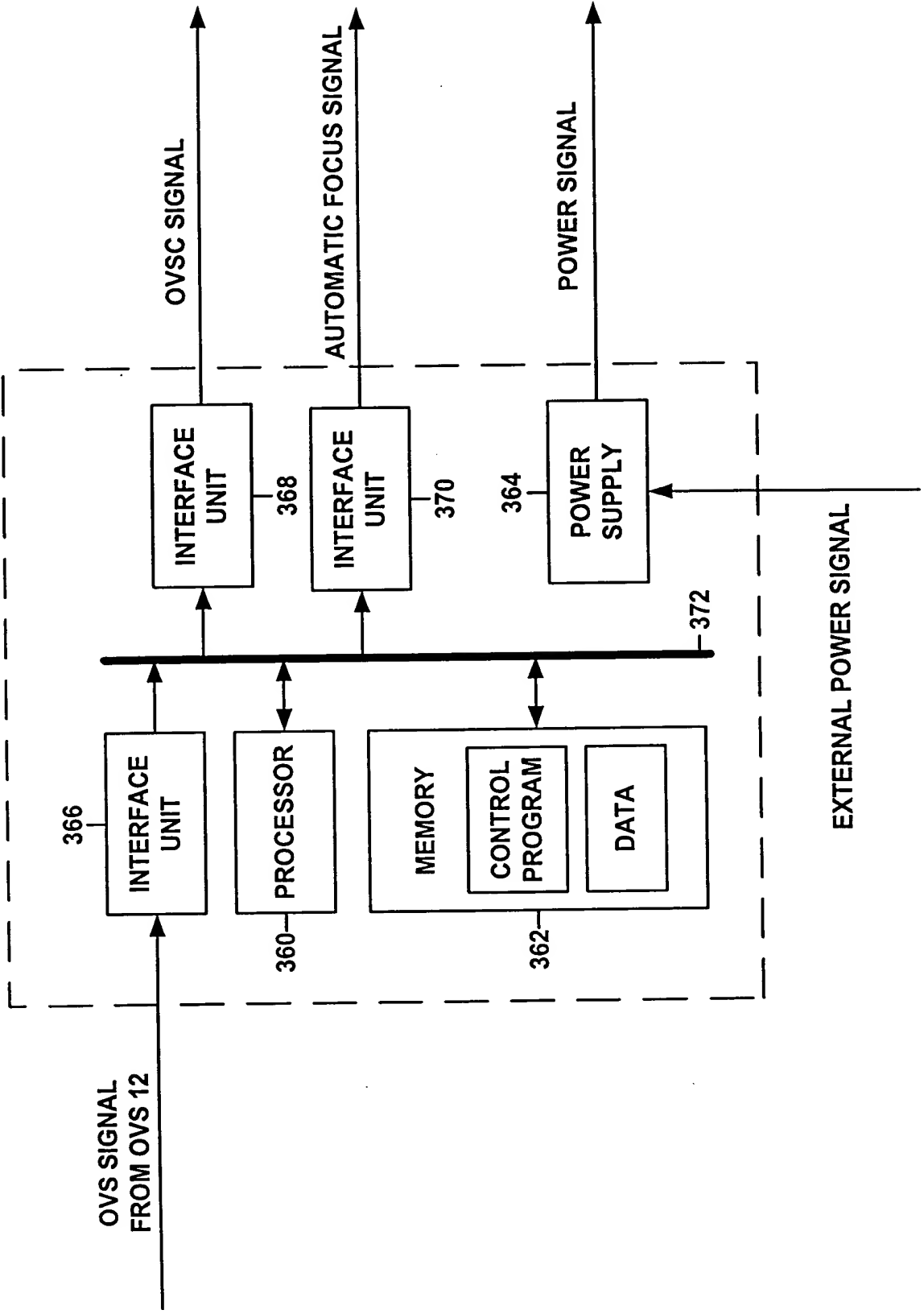
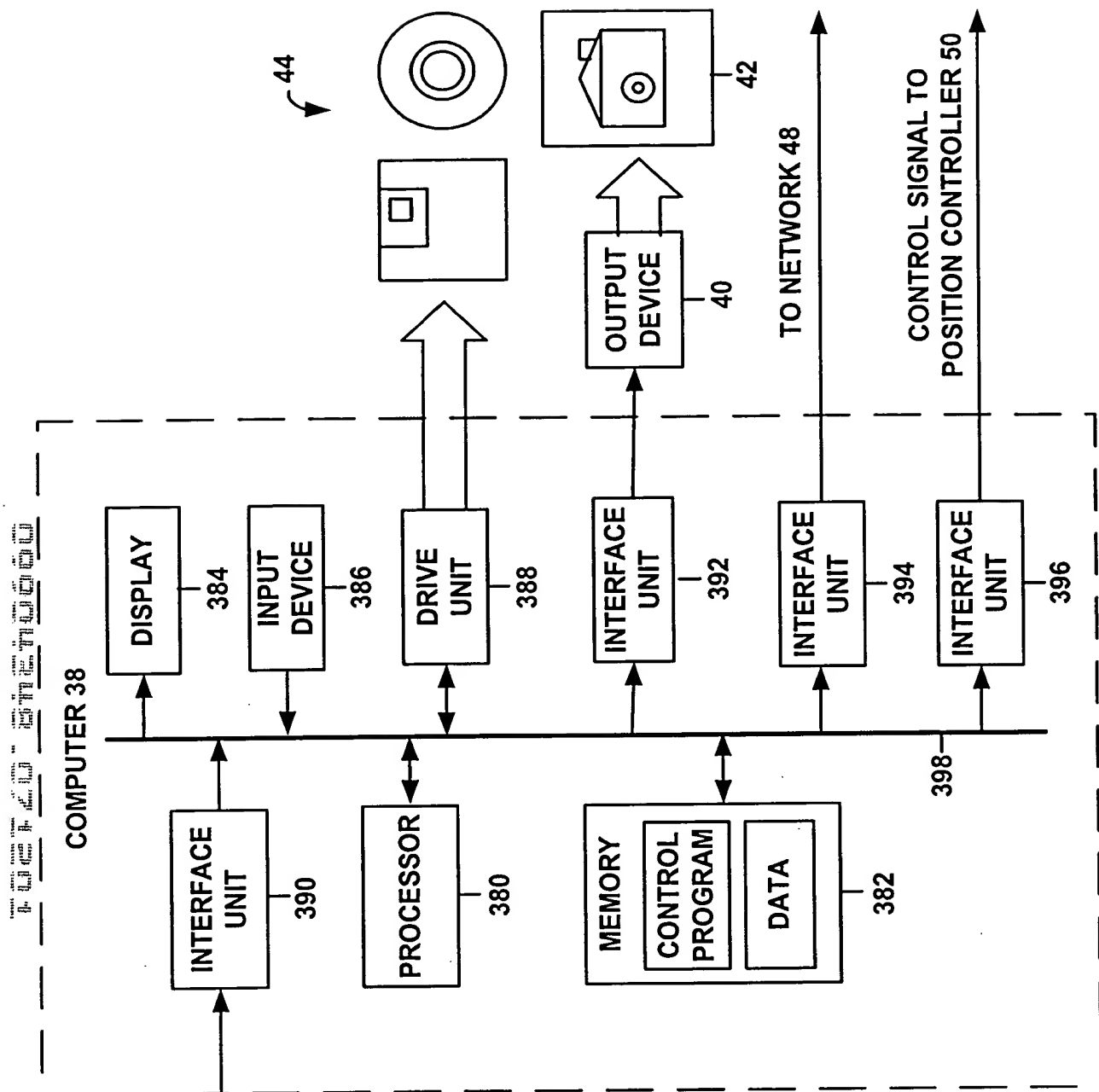
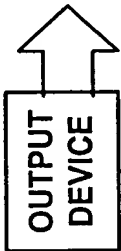
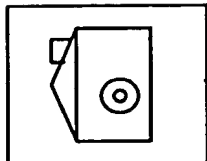
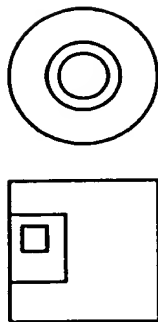


FIGURE 5

FROM OVS 12 AND/OR
OVSC 36



44



42

TO NETWORK 48

CONTROL SIGNAL TO
POSITION CONTROLLER 50

398

396

382

380

PROCESSOR

INTERFACE
UNIT

390

DISPLAY

384

INPUT
DEVICE

386

DRIVE
UNIT

388

INTERFACE
UNIT

392

MEMORY

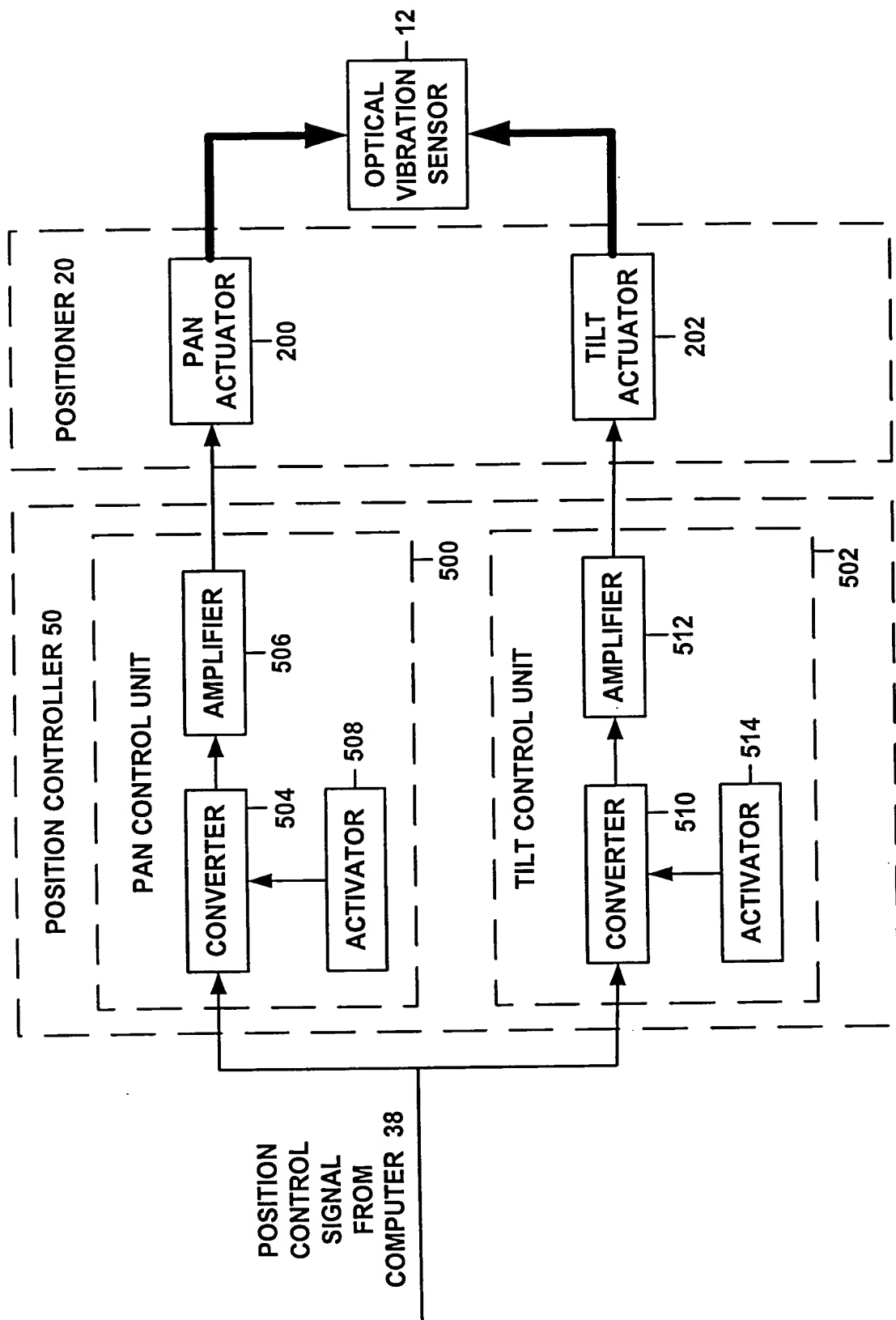
CONTROL
PROGRAM

DATA

OUTPUT
DEVICE

40

FIGURE 6



10

FIGURE 7A

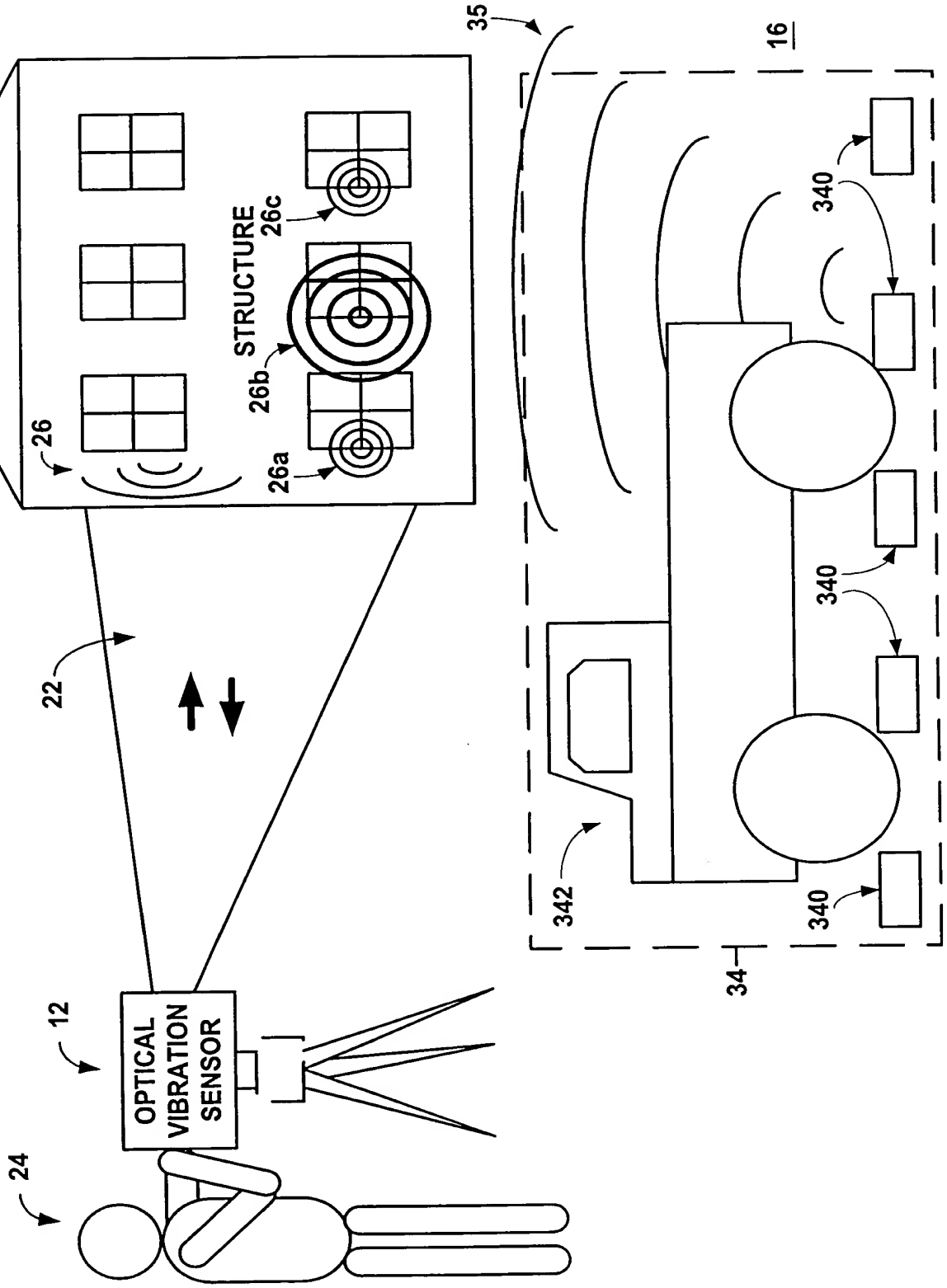
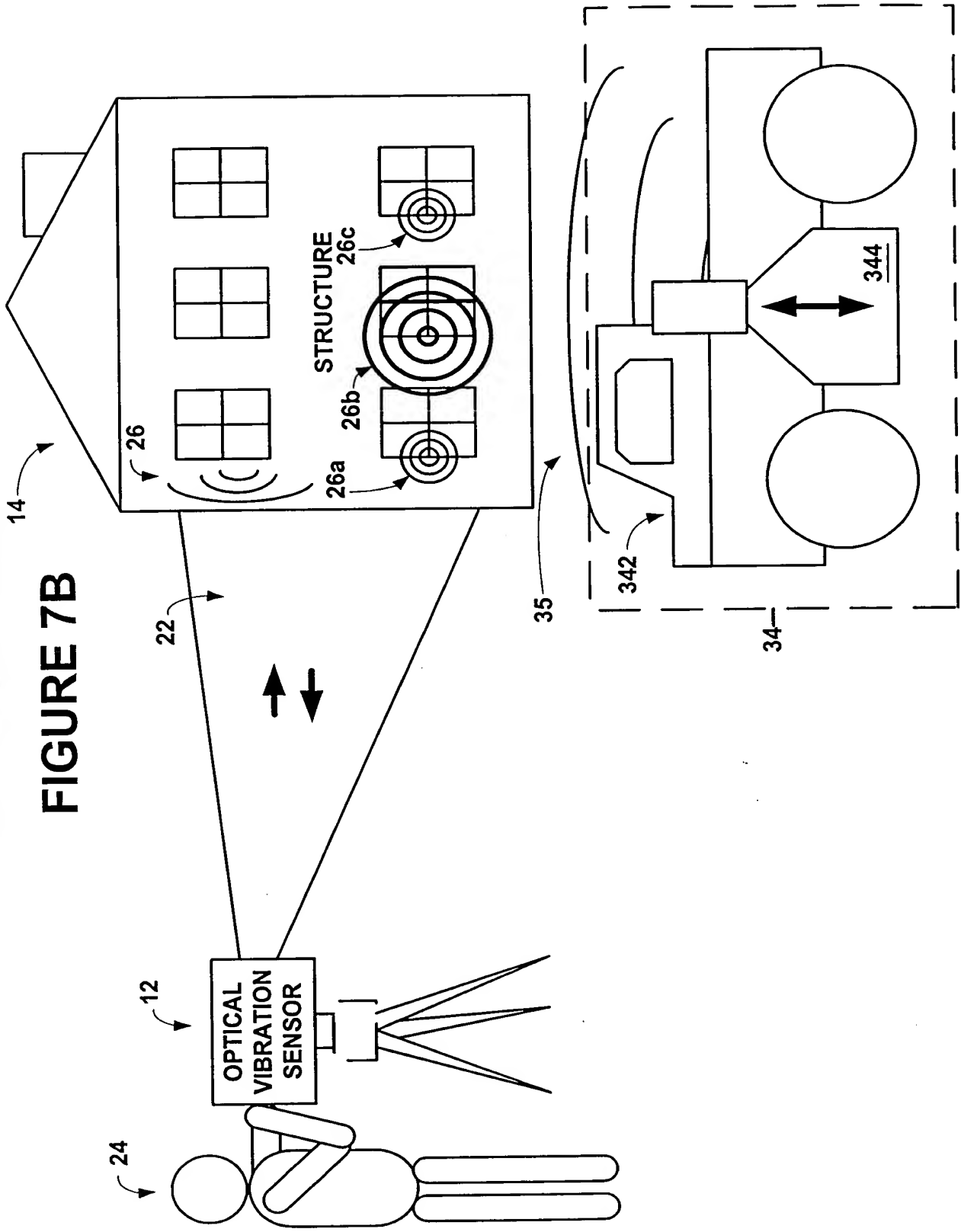


FIGURE 7B



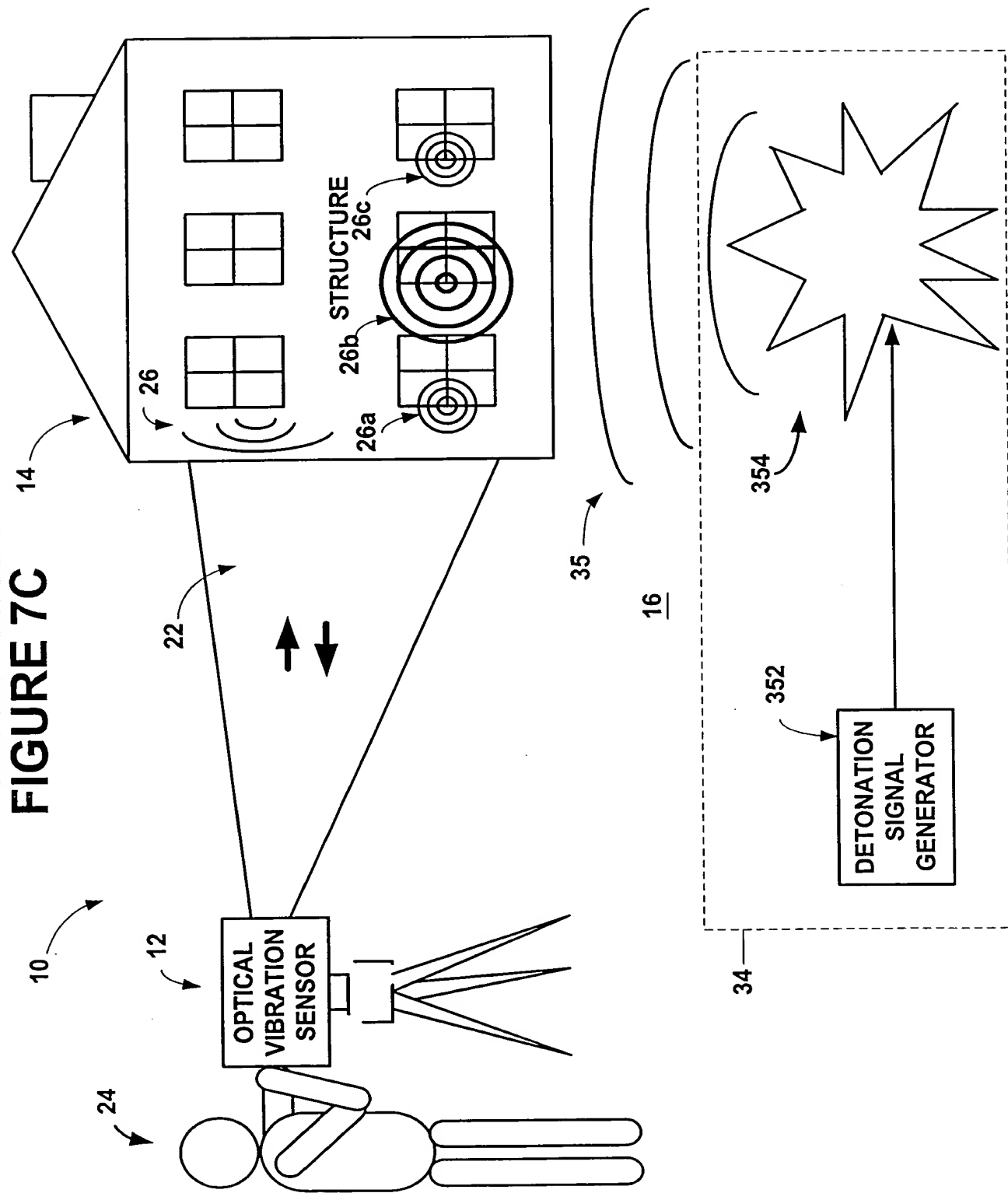


FIGURE 7D

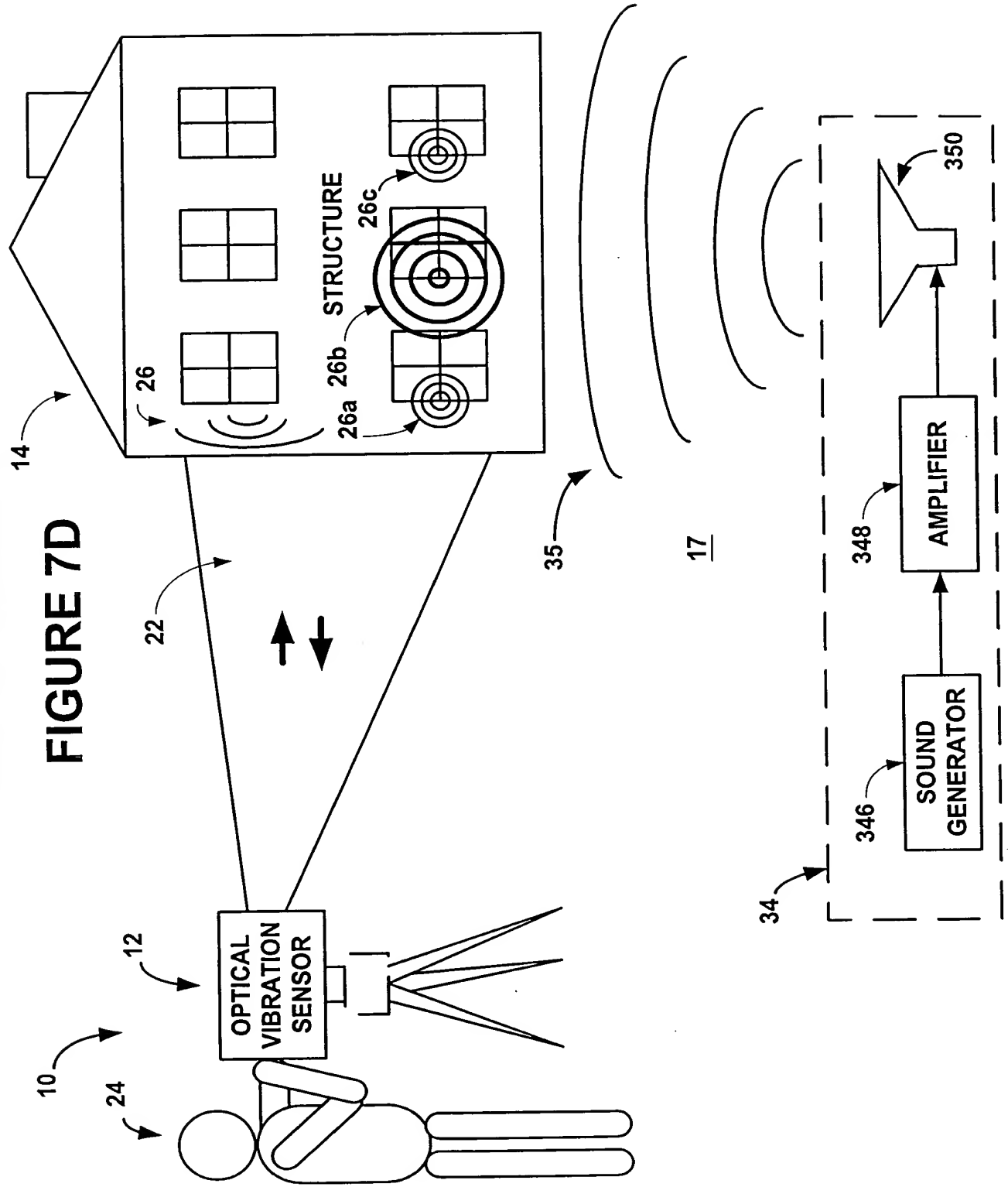


FIGURE 7E

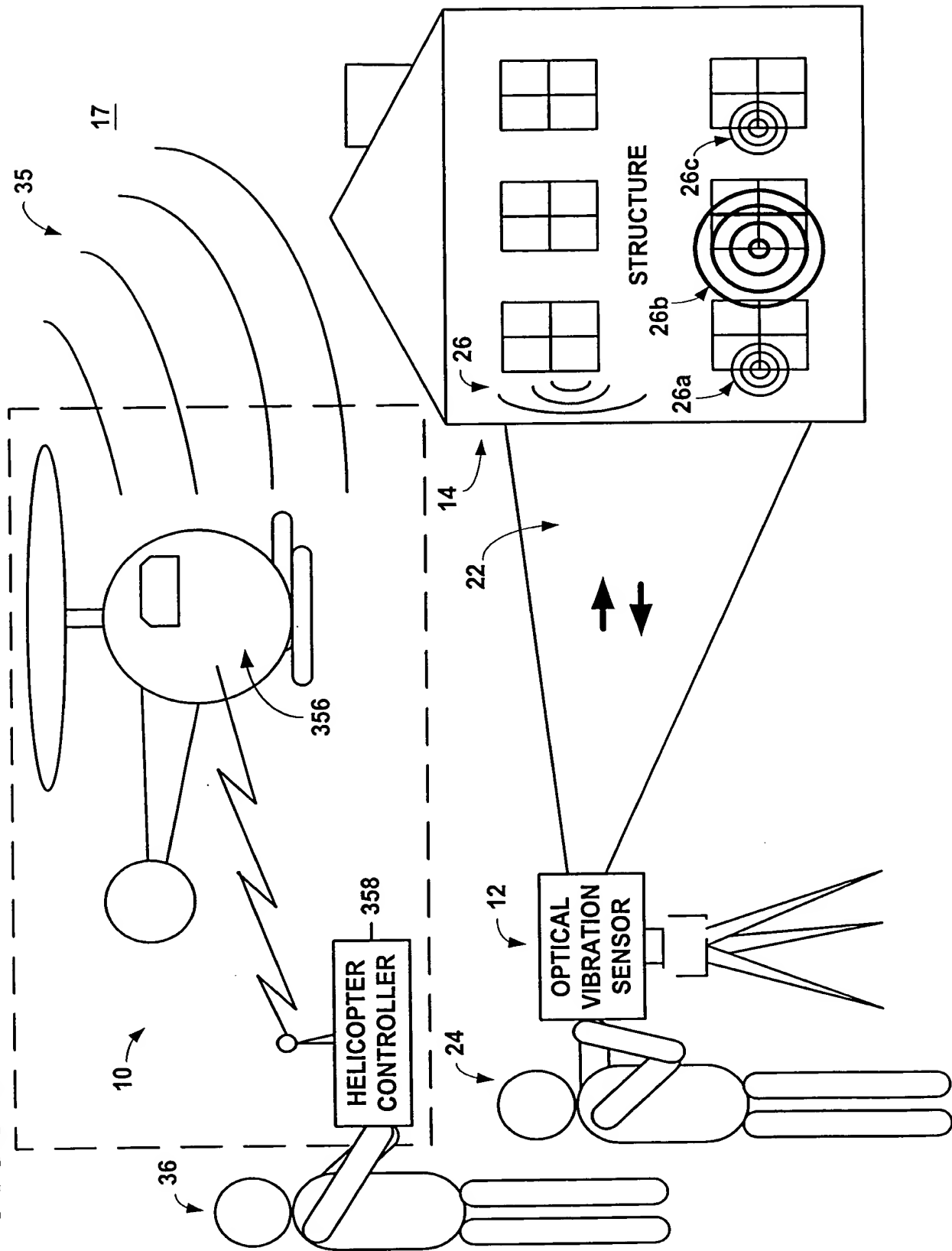


FIGURE 7F

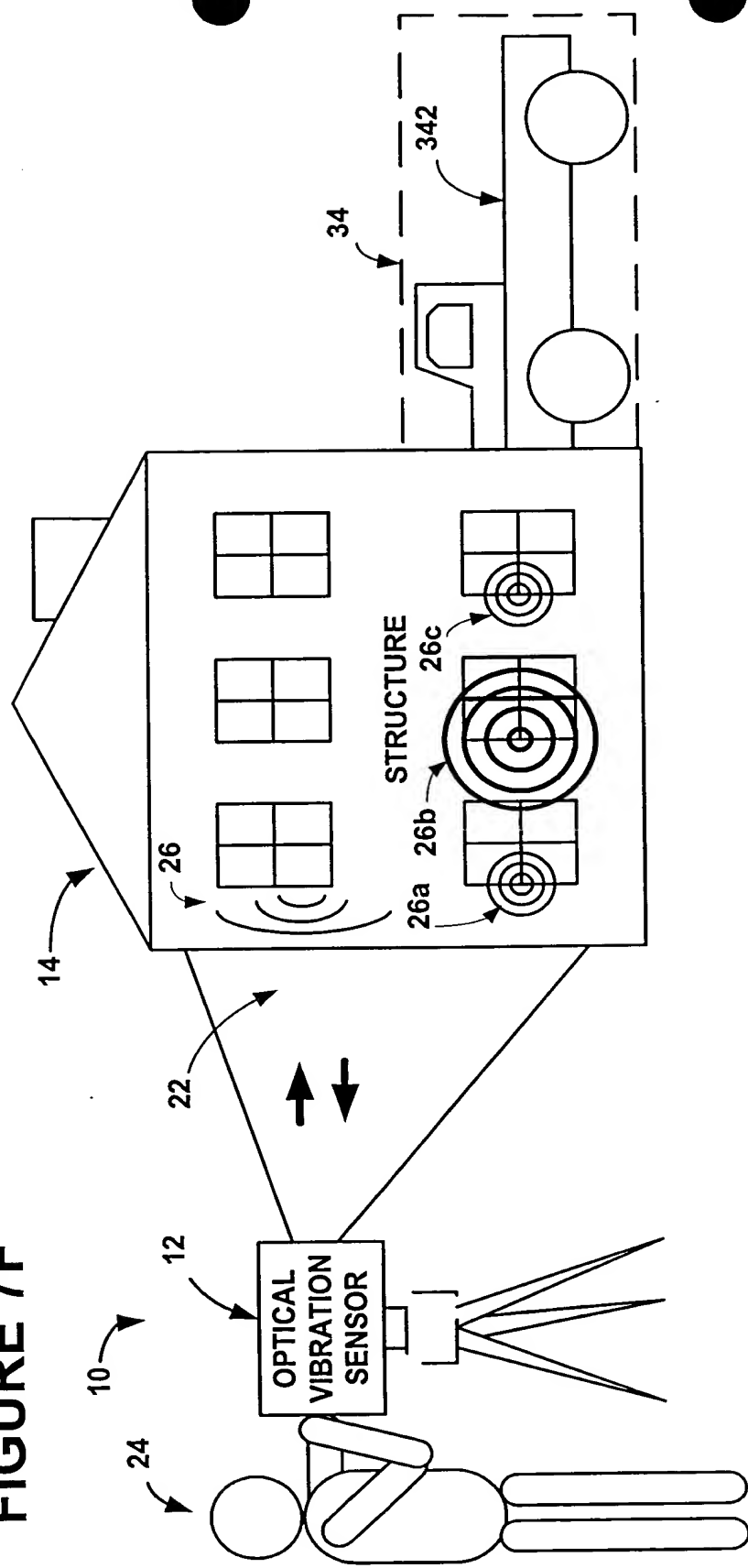


FIGURE 8A

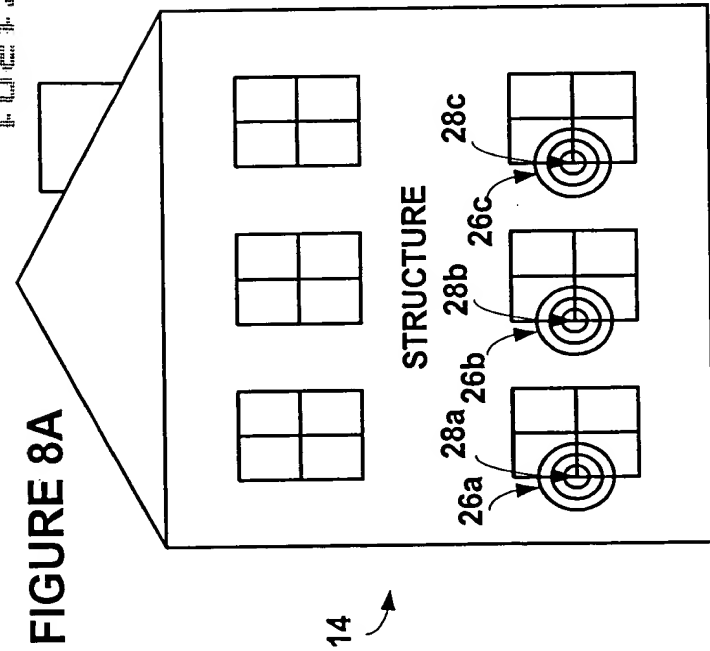


FIGURE 8B

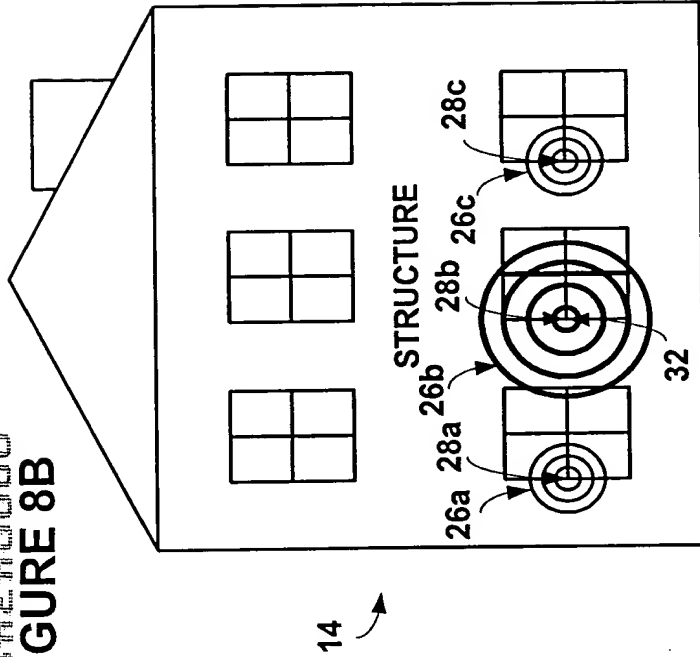


FIGURE 9A

BASE LINE DATA	
.....
.....
4.....3.....4.....
.....
.....

FIGURE 9B

LATER-ACQUIRED DATA	
.....
.....
4.....556.....4.....
.....
.....

FIGURE 10

GENERAL
METHOD

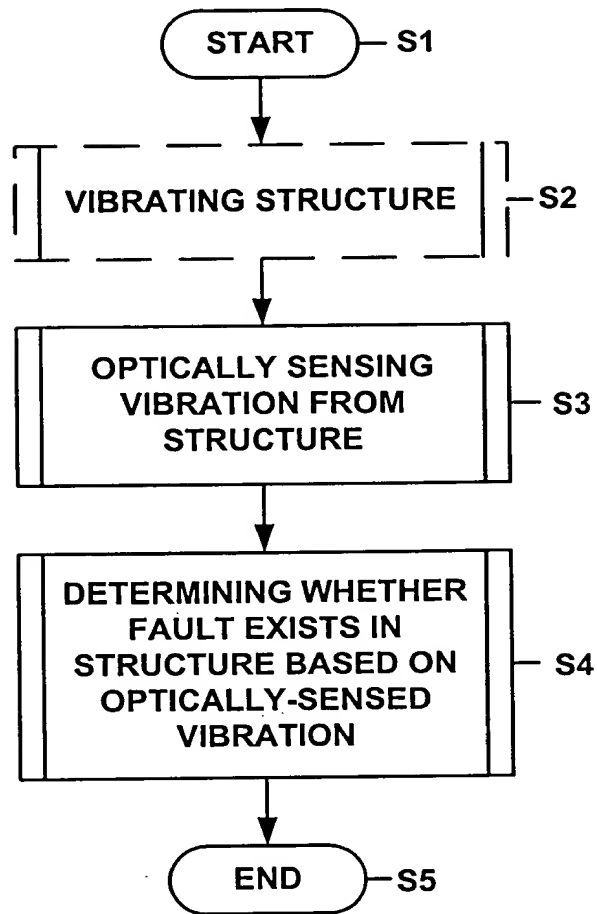
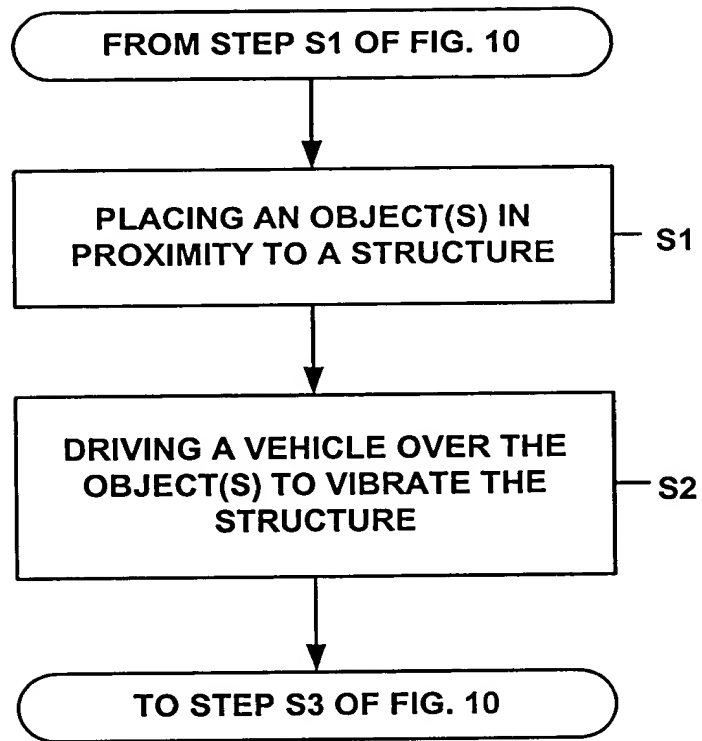


FIG. 10

[illegible]

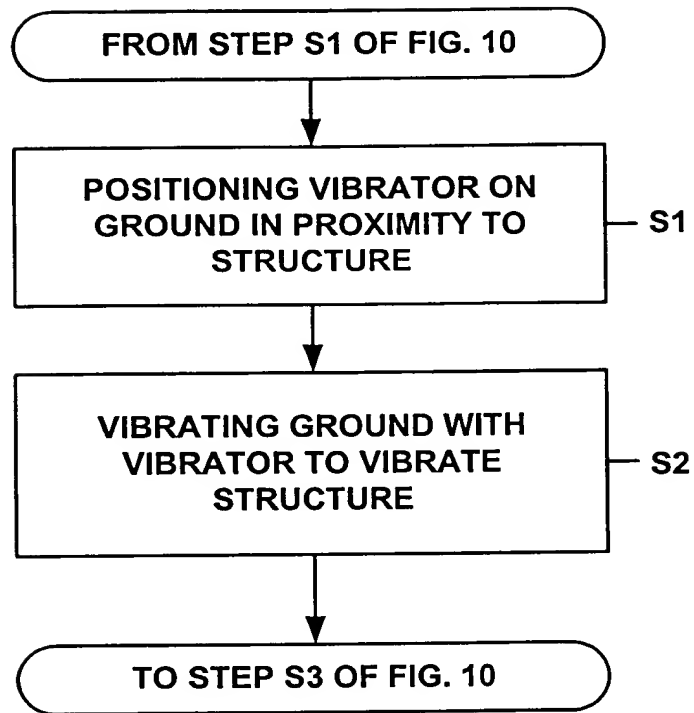
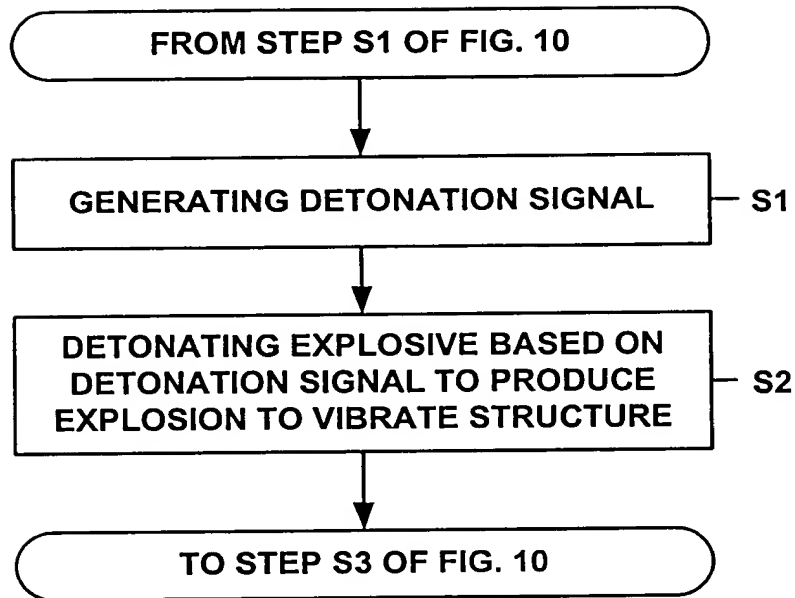
[illegible]

FIGURE 11C



11C

FIGURE 11D

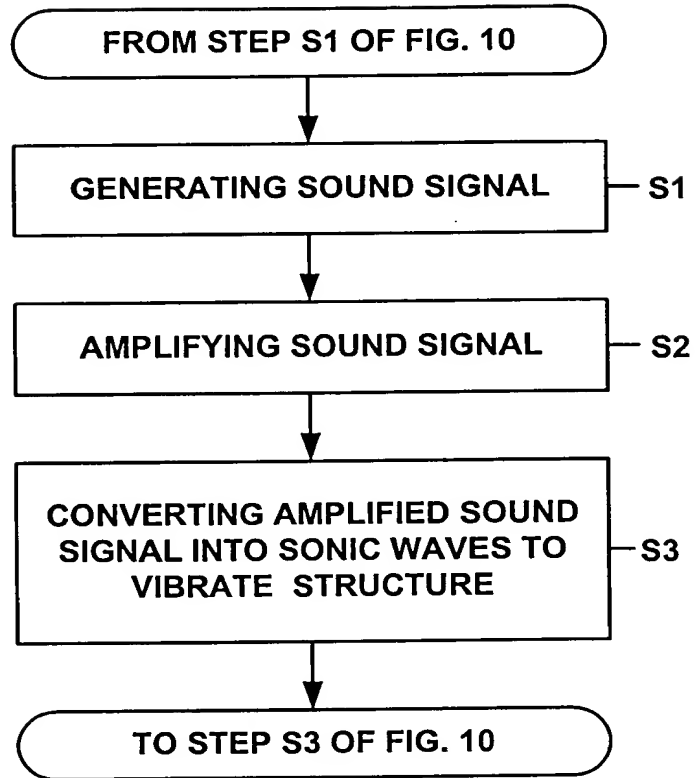


FIG. 11D

FIGURE 11E

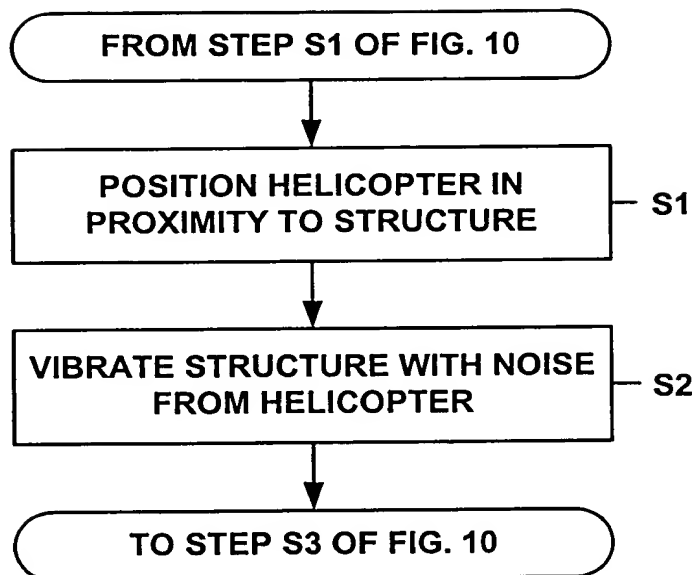


FIG. 11E

FIGURE 11F

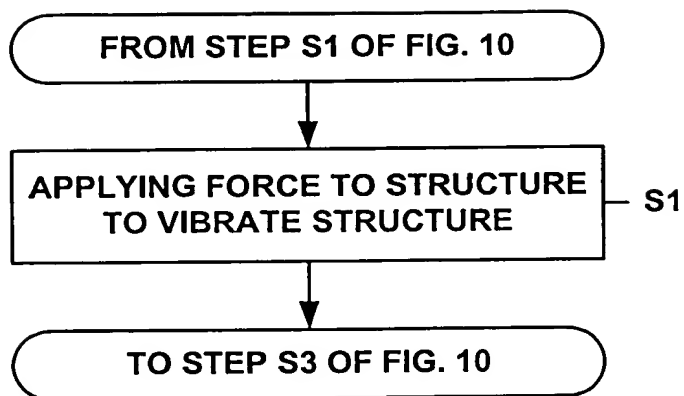


FIG. 11F

FIGURE 12

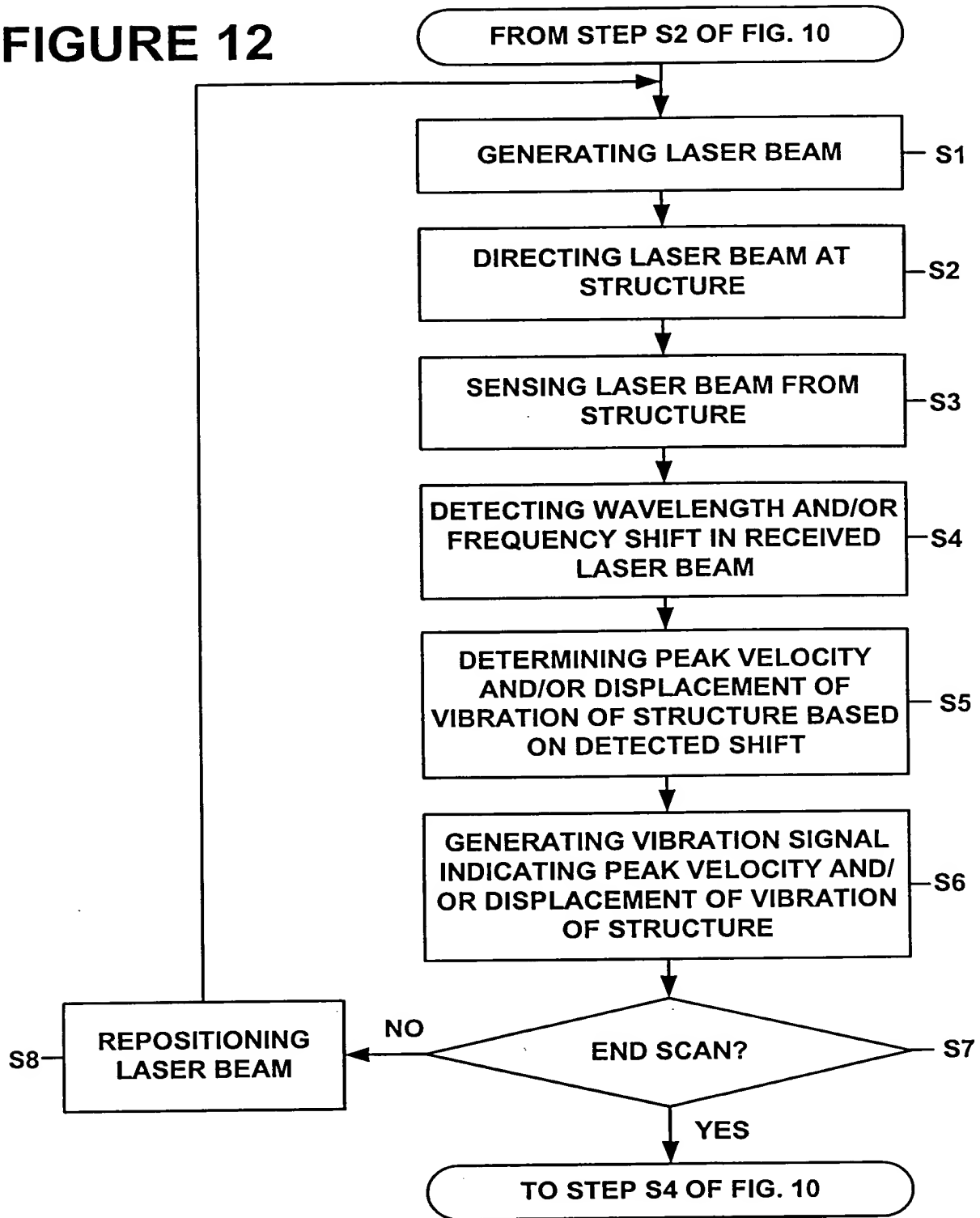


FIGURE 13A

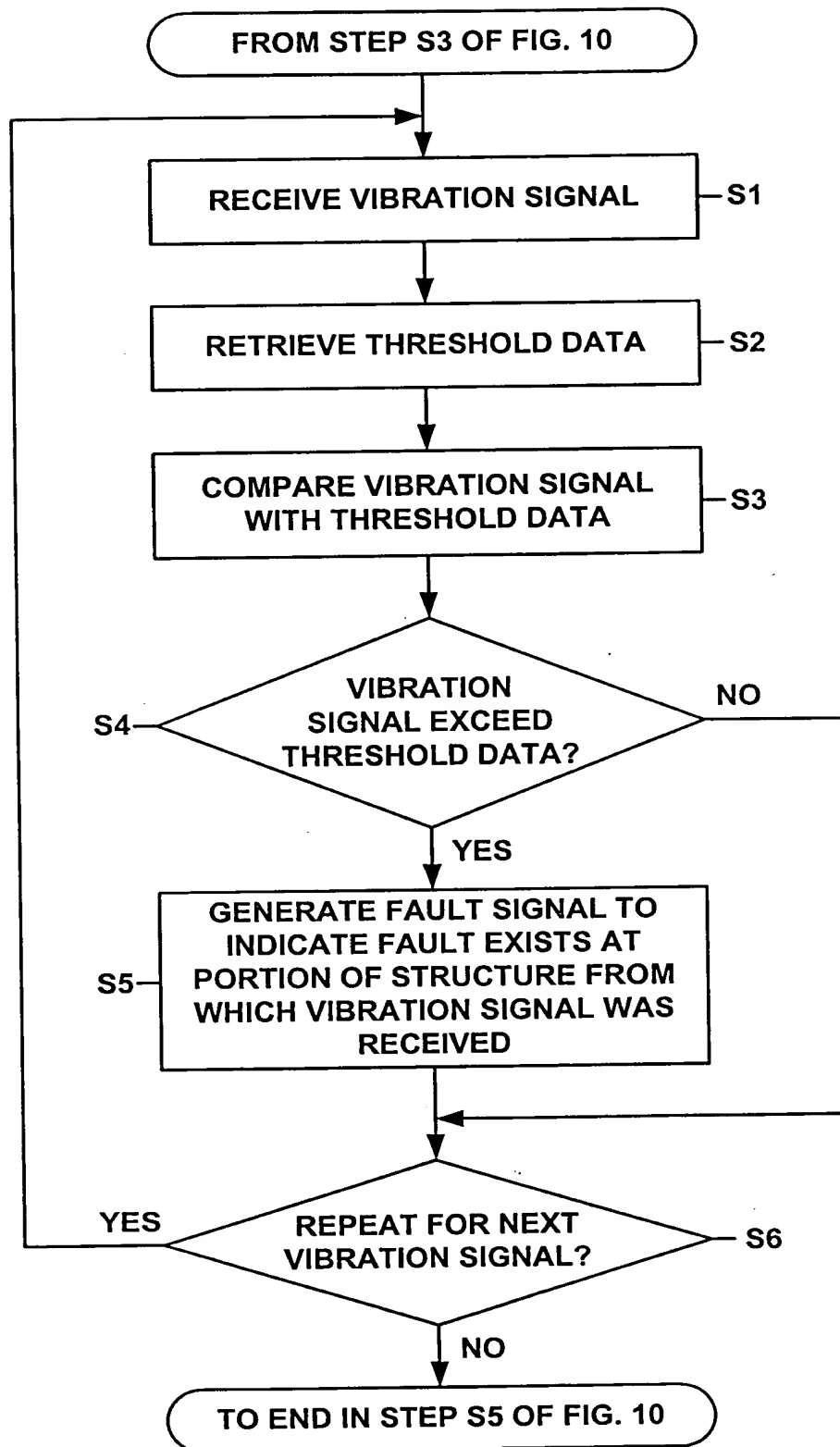


FIGURE 13B

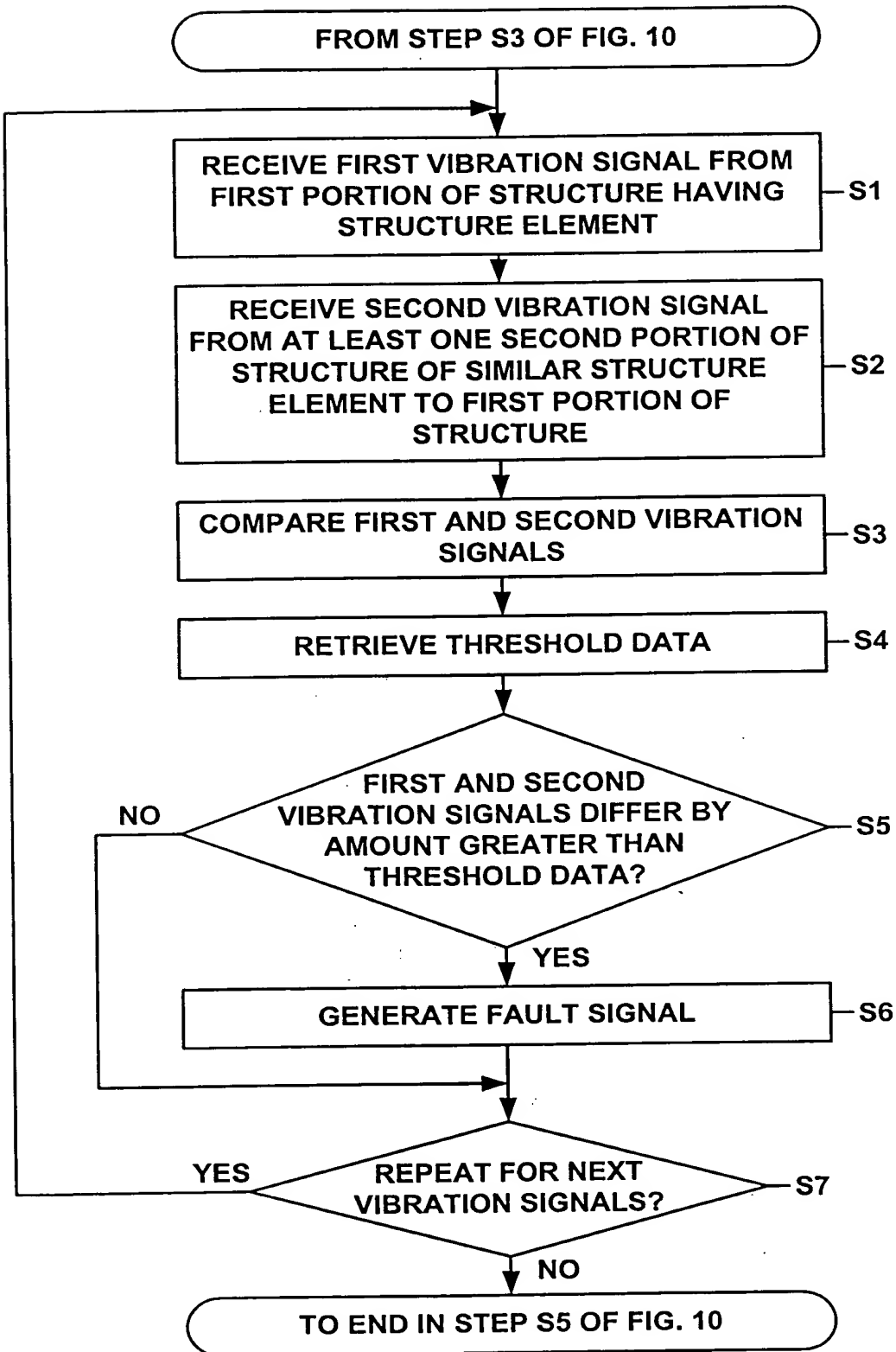


FIGURE 14

METHOD FOR
DETERMINING
WHETHER FAULT
EXISTS IN
STRUCTURE USING
BASE LINE DATA

